

DT01 Rec'd PCT/PTC 10/523479  
04 FEB 2005

## SEQ ID NO: 1 (Human CatSper 3 cDNA)

ATGAGGGATA ATGAAAAGGC CTGGTGGCAG CAATGGACCT CCCATACAGG 0050  
CCTCGAGGGG TGGGGCGGGA CTCAGGAGGA CCGTATGGGG TTTGGAGGGG 0100  
CAGTAGCTGC ACTGAGGGGC CGCCCCTCTC CCCTGCAGAG TACCATTAC 0150  
GAGTCCTACG GTCGGCCAGA GGAGCAAGTG CTCATCAACC GCCAGGAAAT 0200  
CACGAACAAA GCGGACGCCT GGGACATGCA GGAGTTCATC ACTCACATGT 0250  
ACATCAAGCA GCTGCTCCGA CACCCCGCCT TCCAACCTGT GCTGGCCCTG 0300  
CTGCTGGTGA TCAATGCCAT CACCATCGCT CTCCGTACCA ACTCCTACCT 0350  
GGACCAGAAA CACTATGAGT TGTCTCTAC CATAGATGAC ATTGTGCTGA 0400  
CCATCCTTCT TTGTGAGGT CTCCTTGGCT GGCTCAATGG CTTCTGGATT 0450  
TTCTGGAAGG ACGGCTGGAA CATCCCAAC TTCATTATCG TCTTTATCTT 0500  
GCTCTTGGCG TTCTTCATTA ATGAAATCAA TATCCCTCC ATCAACTACA 0550  
CTCTCAGGGC GCTTCGCTG GTGCATGTGT GCATGGCGGT GGAGCCCCTC 0600  
GCCCCGATCA TCCGCGTCAT CCTGCAGTCG GTGCCTGACA TGGCCAATAT 0650  
CATGGTCCTC ATCCTCTTCT TCATGCTGGT TTTTCCGTG TTTGGAGTAA 0700  
CACTCTTTGG TGCATTCTG CCAAGCATT TCCAGAACAT ACAGGTTGCG 0750  
CTGTACACCC TCTTCATCTG CATCACCCAG GACGGCTGGG TGGACATCTA 0800  
CAGTGACTTC CAGACAGAGA AGAGGGAATA TGCAATGGAG ATTGGGGGTG 0850  
CCATCTACTT TACCATCTT ATCACCATCG GTGCCTTCAT TGGCATCAAC 0900  
CTGTTTCGTG TCGTGGTGAC CACCAACCTG GAGCAAATGA TGAAGGCAGG 0950  
AGAGCAGGGA CAACAGCAAC GAATAACCTT TAGTGAGACA GGCGCAGAGG 1000  
AAGAGGAGGA GAATGACCAG CTGCCACTGG TGCATTGTGT GGTCGCCCCG 1050  
TCGGAGAAAT CTGGTCTCCT CCAGGAACCC CTTGCGGGAG GCCCCCTGTC 1100  
GAACCTCTCA GAAAACACGT GTGACAACTT TTGCTTGGTG CTTGAGGCAA 1150  
TACAGGAGAA CCTGAGGCAG TACAAGGAGA TCCGAGATGA ACTCAACATG 1200  
TAG 1203

## SEQ ID NO: 2 (Human CatSper 3 Protein Sequence)

MRDNEKAWWQ QWTSHTGLEG WGGTQEDRMG FGGAVAALRG RPSPLQSTIH 0050  
ESYGRPEEQV LINRQETNK ADAWDMQEFI THMYIKQLLR HPAFQLLLAL 0100  
LLVINAITIA LRTNSYLDQK HYELFSTIDD IVLTILLCEV LLGWLNGFWI 0150  
FWKDGWNILN FIIVFILLR FFINEINIPS INYTLRALRL VHVCMAVEPL 0200  
ARIIRVILQS VPDMANIMVL ILFFMLVFSV FGVTLFGAFV PKHFQNIQVA 0250  
LYTLFICITQ DGWVDIYSDF QTEKREYAME IGGAIYFTIF ITIGAFIGIN 0300  
LFVIVVTTNL EQMMKAGEQG QQQRITFSET GAEBEENDQ LPLVHCVVAR 0350  
SEKSGLLQEP LAGGPLSNLS ENTCDNFCLV LEAIQENLRQ YKEIRDELNM 0400

## SEQ ID NO: 3 (Murine CatSper 3 cDNA)

ATGTCTGAAA AACACAAGTG GTGGCAGCAG GTGGAGAACA TCGACATCAC 0050  
ACACCTGGGC CCTAAGAGAA AAGCCTATGA ACTCCTGGGT CGGCATGAGG 0100  
AGCAAGTGCT CATCAACCGC AGAGATGTCA TGGAGAAGAA GGATGCCTGG 0150  
GATGTACAGG AATTCATCAC TCAAATGTAT ATCAAGCAGT TGCTCCGCCA 0200  
TCCGGCCTTC CAGCTGCTGC TGGCCTTCT GCTGCTGTCC AACGCCATCA 0250  
CCATTGCCCT TCGCACCAAC TCTTATCTCG GTCAGAAACA CTACGAGCTA 0300  
TTCTCGACCA TAGATGACAT TGTGTTGACG ATCCTTATCT GCGAGGTTCT 0350  
GCTTGGTTGG CTTAACGGCT TCTGGATTTT CTGGAAGGAT GGCTGGAATA 0400  
TCCTCAACTT CGCAATTGTC TTTATCTTGT TTATGGGGTT CTTATAAAA 0450  
CAACTTGACA TGGTTGCCAT CACCTACCCT CTCAGGGTGC TCCGGCTGGT 0500  
GCATGTGTGT ATGGCGGTGG AACCCCTGGC CAGAATCATC AAGGTTATCC 0550  
TGCAGTCGAT GCCAGACTTG GCCAATGTCA TGGCTCTCAT CCTCTTCTC 0600  
ATGCTGGTAT TCTCTGTGTT TGGGGTCACG CTCTTCGGTG CATTGTGCC 0650  
CAAGCATTTT CAGAACATGG GGGTTGCCCT GTACACGCTC TTCATCTGCA 0700  
TCACTCAGGA TGGATGGCTG GACATCTACA CTGACTTCCA GATGGATGAA 0750  
AGAGAGTACG CGATGGAGGT CGGGGGCGCC ATCTACTTTG CCGTCTTTAT 0800  
CACCCCTCGGT GCCTTCATTG GTCTCAACTT GTTCGTCGTC GTGGTGACCA 0850  
CAAACCTGGA ACAAATGATG AAGACCGGCG AGGAAGAGGG ACACCTGAAC 0900  
ATAAAGTTTA CTGAGACAGA AGAGGATGAG GACTGGACCG ACGAGCTGCC 0950  
ACTGGTGCAT TGTACAGAG CCCGCAAGGA TACTTCCACT GTCCCCAAGG 1000  
AACCACTGGT TGGGGGCCCC CTGAGTAACC TCACAGAAAA GACCTGCGAT 1050  
AACTTCTGCT TGGTGCTTGA AGCAATACAG GAGAACTTGA TGGAGTACAA 1100  
AGAGATCCGA GAGGAACCTA ACATGATCGT GGAGGAAGTG TCCTCCATCC 1150

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GGTTCAACCA GGAGCAGCAA AATGTGATCC TACACAAGTA TACCTCCAAA 1200  
AGCGCCACCT TCCTAAGCGA GCGCCAGAA GGGGCTAACA AGCAAGACTT 1250  
GATCACTGCG CTGGTCAGCA GGGAAAAGGT GTCTGATTCT AACATAAACA 1300  
TGGTTAACAA ACACAAGTTC AGCCACTGA 1329

## SEQ ID NO: 4 (Murine CatSper 3 Protein Sequence)

MSEKHKWWQQ VENIDITHLG PKRKAYELLG RHEEQVLINR RDVMEKKDAW 0050  
DVQEFITQMY IKQLLRHPAF QLLLAFLLLS NAITIALRTN SYLGQKHYEL 0100  
FSTIDDIVLT ILICEVLLGW LNGFWIFWKD GWNILNFAIV FILFMGFFIK 0150  
QLDMVAITYP LRVLRVHVC MAVEMPLARI KVLQSMPDL ANVMALILFF 0200  
MLVFSVFGVT LFGAFVPKHF QNMGVALYTL FICITQDGWL DIYTDQFQDE 0250  
REYAMEVGGG IYFAVFITLG AFIGLNLFFV VVTNNLEQMM KTGEEEGHLN 0300  
IKFTETEEDD DWTDDELPLVH CTEARKDTST VPKEPLVGGP LSNLTEKTC 0350  
NFCLVLEAIQ ENLMEYKEIR EELNMIVEEV SSIRFNQEQQ NVILHKYTSK 0400  
SATFLSEPPE GANKQDLITA LVSREKVSIDS NINMVNKHKF SH\* 0442

## SEQ ID NO: 5 (hCatSper3 5' flanking sequence containing basal promoter region)

GGGCTGCCGG GGGTAGGAGG TGGGGATAAA CAACAGGGCG TGGAGCTCAG 0050  
ACAGAAACCC TCTGTGCTTT CCACCCTGCC TGCAGCCCAG CCCTGCTCAA 0100  
GCTGGGAGTC CCCTCCATGG AGACACATCA CCTGCAGCCA CCCCCACACA 0150  
GCGCAGCCCA CGGACCTCCT TTGGCTCTCT GACAGGTGCT GGGCTGGAGT 0200  
TGGGAGCTGG GCTGGGGGCT GGGGTGGGCA CATCCTCATC CTGCTCTTCC 0250  
CTCCACACAGA CAGCAGTGAA GAGGCACTGG AAGGAATGGT ACGGGGGCTG 0300  
AGGCAGGGTG GCGTGTCCCT CCTAGGCCAG CCACAGCCCC TGACCCAGGA 0350  
ACAGTGGCGG AGCTCTTTCA TCGGCGCAA CCGAGACCCT CAGCTCAATG 0400  
AGCGAGTGCA CCGTGTGCGG GCGCTACAGA GCACACTCAA GGTCAGCTGG 0450  
GGGGCTCTGG GCACAGCAAG GGACTAGGCT CTGGGCTTCA GGCTTTGGTT 0500  
TGCGGCTGTC ACCTCCACCC TGGGCACAG ACTCCAGACT CCAGACTCAG 0550  
TCCCGGAGTC TGGGCTTAGC AGCTGACAGC GGGCTCAGCT GTGGACTGGG 0600  
CCAGGCTCTG GGTTCGAGT GGGGATTTGA GTCTCACCTA GGCTCCTCGT 0650  
GCCACGCTGG CCAGGTGCTG GCTTCCAGGC ACCGGACCTC CGGAGTGAAG 0700  
TCTGGCCTCG GGCTCTGCCC ACTTCCCTGG GTGATCATGG TCCCTTAGCC 0750  
CCTCCTCTCC ACACAGGCAA AGCTGCAGGA GCTGCAGGTC CTAGAAGAAG 0800  
TGCTGGGTGA CCCTGAGCTG ACAGGAGAGA AGTTCGCGCA GTGGAAGGAG 0850  
CAGAACCGGG AGCTGTACTC AGAGGGCCTG GGGGCCTGGG GAGTGGCACA 0900  
GGCTGAAGGC AGCTCCACA TCTTGACCTC TGACTCCACA GAACAGTCCC 0950  
CCCCTCCCT GCCCTCTGAC CCTGAAGAGC ACTCCCATCT CTGCCCCCTG 1000  
ACCTCAGAGT CAGAGCTCCG ACCTCCTGAC CTCTGACCCT GGCCAGCACT 1050  
CTAGCTCCTG ACCTTTGACC CGAGGGCCAC CTCAACCCCA GCTTCTGACG 1100  
TGTCAGGAC AGAGCATCCC TGGATTCTGT TCAGGGTGGG AAGTAGTACT 1150  
GCTAGTCATG GTCTACCCCC GAGCTGACCC CTCTGCCTGG GCTTTGTGCC 1200  
ACCCTCTCCC TTGCCAAAGA AGAACTCTC CCCCCAAATC CTCCAACCTC 1250  
TGGGGCCACA GCCCTGCCCC TCCAGTTCTT TGGCAGTTCT CCCCCAAACC 1300  
AGGTCTGTAC AGGTGTTCTT TATTTTACAT GAGGGCTACT TTCCAACCAA 1350  
ATAAAGTCAA TTTTCTAAG AATGAGTCTA CATGTAACCT TACTTCCATA 1400  
TTCGAATTGG AAATCTGCCC CCCTGTGGGG ACTGGGGTGA GTGCTCTTGG 1450  
CCAGAGGGTG GGTGGCAGAC CCTTCGTGCA GCGGTTGGC CTGGGCTCTG 1500  
TACCCGAGCT CCAAGCCTGC CAGGATGGTG GGGGATGACC CATGGCTAAT 1550  
GAGGGCTCCG ACTCATGTCC ACCTCTCCCC AGCTCTTTGA AGGCTAATGG 1600  
TGATCTCCTA CCCCATTCCC GGGGGGCACA CAATGAGAAA CTTCCACTTT 1650  
GTAGATGGGG AAATGCACCT TGCACGGAAA GGTGGTGGGG ACAGTCCCTG 1700  
AGACTGGGCT GGTAGGACAG GGCAGCTGGT GGGGAAGGGT GCAGGTTGAG 1750  
GTCTGCCCTG GGAAGGCCCT GGGGAAAACA CTTCTCTCCT TCACTCCTCA 1800  
TTCCAGCCTC ACCTCCACCT CTTGGATCCA AGGCAGGGAC ATGTCCCTGT 1850  
GACTCCATTC AGGCTGCACG GGAAATCTGA CCTGCTCCA TCAGCCTCTG 1900  
ACTTCCAACC CCAGCCCAGC ATCCCCACAG CATCCCCAGA CTTCTCTGT 1950  
GGGATGCGGA GGAGGGCCAA TGGAGGAGC TTCTCTCCAG GTTGGAATC 2000  
CTCAGTAGAA TGCAGACGGC TGGAGGTCAC AGAGGCCTCT GTGATATCAC 2050  
CACGAGGGGG AGTGAGACCA CTTGGAGTG 2079

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SEQ ID NO: 6 (hCatSper3 5' UTR)

AAGATTCTTT GAGGAGAAGG AAGAGACTGA GCAAAC

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SEQ ID NO: 7 (hCatSper3 3' UTR)

GGGAGGGTAC TGGGGCTGCC CCAAGTCAT GTGAGTCAAG GCTGGGCGGA	0050
GCGTCAGAGT CTTCTGGCCT TCACGCCCTC ACCATTTATA AGGCAGAGCC	0100
TGGGCCCCAC AGAGGTCCCC CACCCTATTG GTGGAGGAAC TGAATCCAG	0150
ACTCCAGGTT CCTTCCATCT CACACAAGGG CACAGCTCGG CCTGGGTCTC	0200
TGTCAGGGCT GCGTGGGAGA GCGAAGCGGG GGTGACGCCA GGAAGAGGT	0250
GGGAGGGCTG CTTCCTCCC CTGAGGCCTT CTGAAAGGCA CTCCTGCTC	0300
CACCCCCAGG ATTGTGGAGG AGGTGCGTGC AATCCGCTTC AACCAGGAGC	0350
AGGAGTCAGA GGTGTTGAAC AGGCGCTCGT CGACGAGCGG GTCGTTGGAG	0400
ACTACGTCAT CCAAGGACAT CCGCCAGATG TCTCAACAGC AAGACTTGCT	0450
CAGTGCCTC GTTAGCATGG AAAAGGTG	0478